

REMARKS

Claims 1-47 were pending in the present application. Claims 1-25 stand allowed and claims 26-48 stand rejected. By virtue of this response, claims 44 and 46 have been cancelled, claims 7, 26 and 45 have been amended, and new claims 48-50 have been added. Accordingly, claims 1-43, 45, and 47-50 are currently under consideration. Amendment and cancellation of certain claims is not to be construed as a dedication to the public of any of the subject matter of the claims as previously presented.

Objection to the Specification

The disclosure stands objected to because of the following informalities: In paragraphs [0006] and [0007], each instance of “principle” should be replaced with “principal”. In paragraph [0037], the serial number for the named application should be provided (09/870,876).

Appropriate corrections are made herein and Applicants request withdrawal of the objection.

Claim Objections

Claim 7 stands objected to because “width” should be inserted after “waveguide” in line 2. Claim 7 is amended herein to include “width” after “waveguide” in line 2, and Applicants request withdrawal of the objection.

Drawings

Figure 4 stands objected to because box 62 “constituent should read “constituent.” Appropriate correction is included with amended Figure 4 and Applicants request withdrawal of the objection.

Allowable Subject Matter

Applicants thank the Examiner for the indication that claims 1-25 are allowed. In view of the comments that follow, Applicants respectfully request reconsideration and allowance of all pending claims.

Claim Rejections Under 35 U.S.C. §§ 102(e)/103(a)

A. The Office has rejected claims 26-33, 35-36, 42, and 47 under 35 U.S.C. § 102(e) as being anticipated by Roberts (U.S. 2002/0122651). Additionally, the Office has rejected claims 34, 37-40, and 43-46 under 35 U.S.C. § 103(a) as being unpatentable over Roberts.

Applicants have amended claim 26 to include features of claims 44 and 46, and therefore address the obviousness rejection to claims 44 and 46 in support of the allowance of claim 26. Support for the amendment to claim 26 may be found in the claims as originally filed and throughout the present application, e.g., paragraphs [0023] and [0030].

Applicants respectfully disagree with the obviousness rejection and submit that Roberts does not disclose or suggest to one of ordinary skill in the art a device having a top cladding layer including “a dopant between about 2-9% by weight,” as recited by claim 26. In particular, the Examiner has not carried the burden of establishing a *prima facie* case of obviousness and is engaging in impermissible hindsight analysis in making the proposed combination. It is well established that there must be some suggestion or motivation to modify the reference. MPEP § 2143. Specifically, the prior art must suggest the desirability of the claimed invention. MPEP § 2143.01. Furthermore, a showing of a suggestion, teaching, or motivation must be clear and particular and based on evidence. *In re Dembiczak*, 175 F.3d 994 (Fed. Cir. 1999).

The Examiner states in the Office Action, *inter alia*, that:

As to claims 39-40 and 44-46, Roberts does not mention that the waveguide 4 or top cladding 7 may be doped. It is well known in the art to provide dopants in waveguide cores or claddings to modify properties including the refractive index and viscosity of the waveguide material, among others. It would have been obvious to a skilled person to add dopants of sufficient kind and concentration to the waveguide or top cladding of Roberts in order to modify their properties as needed for a given application.

Applicants respectfully disagree and submit that the Examiner has not identified a suggestion or motivation to modify the device disclosed by Roberts to include a dopant in the top cladding layer, let alone, “a dopant between about 2-9% by weight,” as recited by claim 26. The

Examiner asserts that one skilled in the art would be motivated “in order to modify their properties as needed for a given application.” Even if it is well known in the art to provide dopants in waveguide cores or cladding layers as asserted by the Examiner, the assertion falls short of suggesting to one skilled in the art to modify Roberts to meet the features of the present claim, e.g., a top cladding layer including “a dopant between about 2-9% by weight.” The assertion that the features of claim 26 are well known or within the capabilities of one of ordinary skill in the art is insufficient by itself to establish *prima facie* obviousness. MPEP § 2143.01. Accordingly, Applicants submit that the proffered motivation for modifying the disclosure of Roberts is not found in the prior art and is merely hindsight analysis - the analysis lacks any evidence of a suggestion or motivation to lead one of ordinary skill in the art to modify the reference to meet the features of the present claims based on a reference or affidavit of the Examiner’s personal knowledge. See, 37 CFR 1.104(d)(1) and (2). Therefore, the rejection should be withdrawn because the Examiner has failed to establish a suggestion, teaching, or motivation in the prior art such as a specific understanding or technical principle that would have suggested modifying Roberts to meet claim 26. See, *In re Rouffet*, 149 F.3d at 1350, 1357 (Fed. Cir. 1998); MPEP §§ 2142, 2143.01.

Further, Applicants submit that one of ordinary skill in the art would, in fact, not be motivated to modify Roberts to include “a dopant between about 2-9% by weight,” as recited by claim 26. The method cited by Roberts for forming the top clad includes thermal oxidation, which is generally not capable of incorporating dopant in significant amounts. For example, the disclosed process is simply oxidation of pure silicon into pure SiO₂. (Roberts, paragraphs [0034], [0040]). A source of dopant in the method of Roberts includes oxidizable impurities in the original silicon which, even when intentionally added, would not be within the recited range. Therefore, one of ordinary skill in the art would not be motivated to modify the reference of Roberts to include a dopant between about 2-9% by weight.

Accordingly, the rejection should be withdrawn because Roberts does not disclose or suggest the features of claim 26.

B. The Office has rejected claims 26-33, 39, 41-42, and 44 under 35 U.S.C. § 102(e) as being anticipated by McGreer (US 2002/0181868).

Claim 26 is amended to include features of claim 46, which are not disclosed or suggested by McGreer, nor are they alleged to be in the Office Action. Claims 27-33, 39, 41, and 42 depend from claim 26 and should be allowable for at least similar reasons as claim 46. Accordingly, Applicants request that the rejection be withdrawn.

Claim Rejections Under 103(a)

The Office has rejected claims 34, 37-40, and 43-46 under 35 U.S.C. § 103(a) as being unpatentable over Roberts.

As stated above, claim 26 has been amended to include features of claims 44 and 46. Accordingly the rejection has been addressed above. Claims 34, 37-40, 43, and 45 depend from claim 26 and are therefore allowable over Roberts for at least similar reasons as claim 26.


CONCLUSION

Applicants have, by way of the amendments and remarks presented herein, made a sincere effort to overcome rejections and address all issues that were raised in the outstanding Office Action. Accordingly, reconsideration and allowance of the pending claims are respectfully requested. If it is determined that a telephone conversation would expedite the prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicant(s) petition(s) for any required relief including extensions of time and authorizes the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 373722002900.

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Respectfully submitted,

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